RHODORA, Vol. 99, No. 898, pp. 161–165, 1997

TALL WHEATGRASS, *ELYMUS ELONGATUS* SUBSP. *PONTICUS*, IN NOVA SCOTIA

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ABSTRACT. The distribution of Tall Wheatgrass (*Elymus elongatus* subsp. *ponticus*) in Nova Scotia is summarized and a planted population along a roadside in Quebec is reported.

Key Words: Tall Wheatgrass, *Agropyron elongatum*, *Elymus elongatus* subsp. *ponticus*, Nova Scotia, Quebec

Tall Wheatgrass is a name applied to a decaploid ($2n = 70$) grass (Asay and Jensen 1996) introduced to North America from Turkey in about 1909 (Weintraub 1953). About half a dozen registered cultivars have been developed from Asia Minor and southwest Asian sources (Asay 1995). Several cultivars are popular in western North America as forage for use on saline and alkaline soils (Asay 1995). Its tolerance of high soil salinity is a characteristic which also has led to its specialized use in soil conservation and revegetation projects where less tolerant species fare poorly. The species has become naturalized in Ontario where it is spreading along highways which receive applications of deicing salt during the winter months (Webber et al. 1985; Oldham et al. 1996). It also has been observed along highways in Quebec as a roadside planting in areas receiving large amounts of deicing salt.

The grass tribe to which Tall Wheatgrass belongs, the Triticeae, is the subject of much taxonomic debate, especially at the generic level (cf. Tucker 1996). The taxonomy and nomenclature within the *Elymus elongatus* complex is also controversial. Several species segregates have been proposed in combination with various generic segregates. Tall Wheatgrass cultivars ($2n = 70$) were released initially under the name *Agropyron elongatum*. The genus *Agropyron* is now generally restricted in application to a small group of Asian taxa related to Crested Wheatgrass (*Agropyron cristatum* L.). The epithet *elongatum* is attached by some workers to diploid (and tetraploid) populations, while decaploid (and oc-

Table 1. Names applied to Tall Wheatgrass ($2n = 70$), with references.

Agropyron elongatum (Host) P. Beauv.	Cronquist et al. 1977
Elymus elongatus (Host) Runemark subsp. *ponticus* (Podp.) Melderis	Melderis 1980
Elytrigia elongata (Host) Nevski	Gleason and Cronquist 1991; Kartesz 1994
Elytrigia pontica (Podp.) Holub	Jarvie 1992
Lophopyrum elongatum (Host) Á. Löve	Weber 1990
Lophopyrum ponticum (Podp.) Á. Löve	Löve 1984
Thinopyrum ponticum (Podp.) Barkworth & D. R. Dewey (invalid combination)	Barkworth and Dewey 1985

toploid) races are sometimes connected with the epithet *ponticum* (e.g., Dewey 1984; Löve 1984), either at specific or subspecific rank. Some authors, however, do not consider the various cytological races and slight morphological differences worthy of taxonomic recognition (e.g., Tsvelev 1984). Dvořák (1981) has shown that the decaploid plant contains an additional genome to that of the diploid form and recommended distinguishing it at the rank of species. Table 1 shows a list of some names that have been applied to Tall Wheatgrass, with selected references.

Oldham et al. (1996) first reported Tall Wheatgrass from Nova Scotia based on a collection from Hants County, where a single plant was detected in 1991. The earliest known herbarium specimen of Tall Wheatgrass, however, appears to be one taken along tidal reaches of the Hebert River, Cumberland County, in 1967. This latter specimen may be the basis for the comment by Roland and Smith (1969) that "other species [of *Agropyron/Elymus*] from western Canada have been planted on the running dykes and may possibly persist."

In October 1996 two additional populations of Tall Wheatgrass were detected in Hants County. One of these populations was found along a dyke and adjoining salt marsh near the mouth of the Kennetcook River. The other was found about 10 kilometers away at the site of a highway bridge over the St. Croix River and situated in an elevated position just above the reach of high tides. Presence of Tall Wheatgrass at these two sites may well represent persistence from old plantings designed to stabilize disturbed soils along dykes. These two populations are large, occurring along the river dykes and in adjoining salt marsh, old

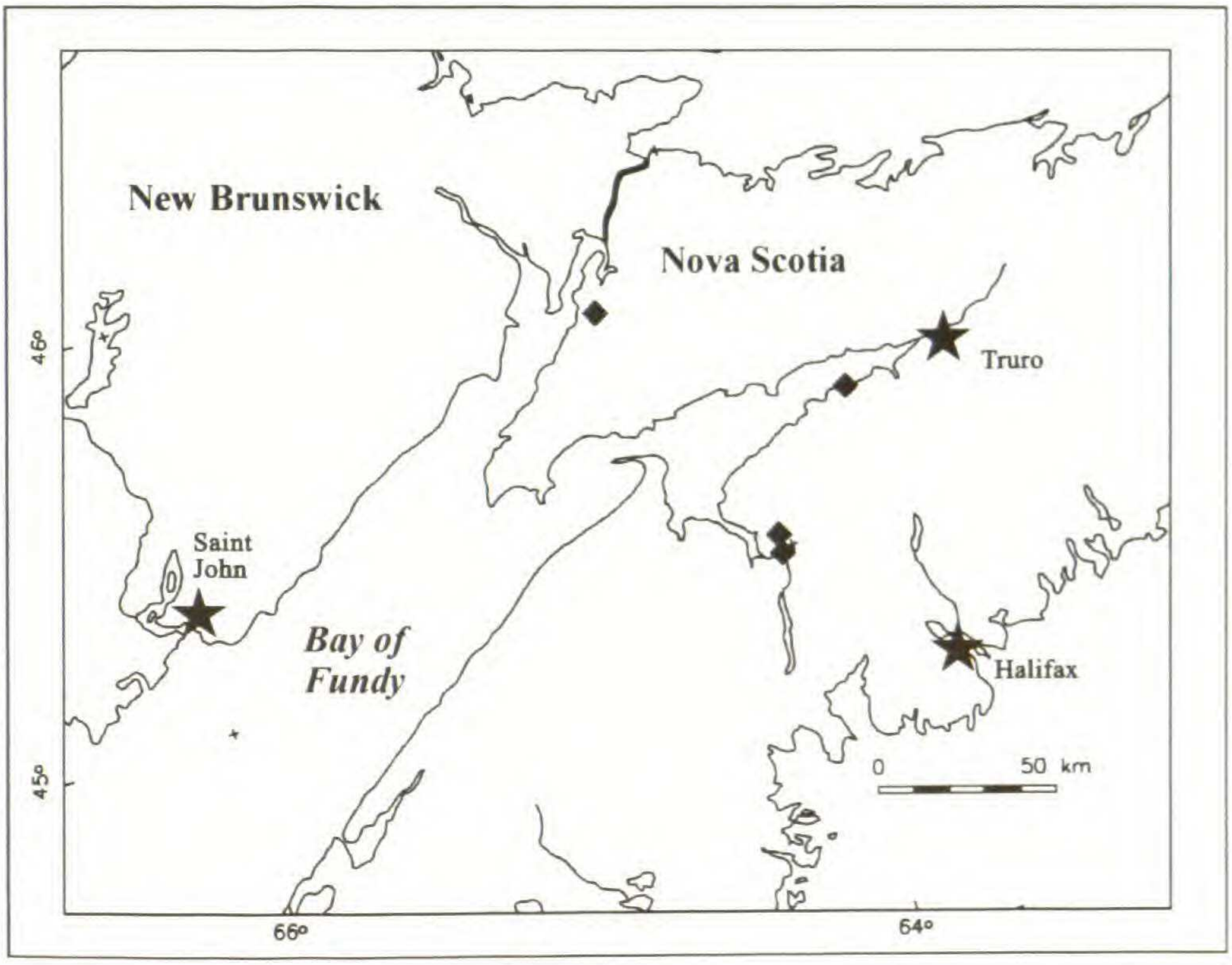

Figure 1. Distribution of Tall Wheatgrass in Nova Scotia, Canada. All known records for the map area are plotted as diamond symbols.

field and roadside habitats where it is unlikely to have been deliberately planted. Neither the provincial Department of Agriculture and Marketing (involved with dyke maintenance) nor the provincial Department of Transportation (involved with road maintenance) utilizes Tall Wheatgrass in revegetation seedings at this time.

All sites are in saline habitats, either on an upper beach or along the lower reaches of rivers within the influence of tides. Population size and the habitats occupied suggest that Tall Wheatgrass is persisting and spreading in saline soils of Nova Scotia. The distribution as known from herbarium specimens is mapped in Figure 1.

Morphological features distinguishing Tall Wheatgrass from other members of the Triticeae in eastern North America include: caespitose habit; glumes stiff, bluntly obtuse to truncate, about half as long as the spikelet; lemmas obtuse, glabrous, awnless (sometimes mucronate); and anthers 4–7 mm long. Keys to the genera and species of Triticeae, including Tall Wheatgrass, in the

northeastern United States and southeastern Canada can be found in Gleason and Cronquist (1991). Excellent illustrations of Tall Wheatgrass, as well as other native and introduced relatives, can be found in Cronquist et al. (1977).

SPECIMEN CITATION. **Canada.** NOVA SCOTIA: Cumberland Co., River Hebert, waste ground along shore of tidal Hebert River, 30 Jul 1967, *Dore and Marchant 23079* (DAO); Hants Co., Andrews Public Beach and Picnic Area, Noel Shore, on S side of Cobequid Bay, dry open rocky ground W of boardwalk entrance to beach platform, one large clump with ca. 15 fruiting culms, 23 Aug 1991, *McLeod 91146* (DAO); Kennetcook River, 45°02′N, 64°02′W, along dyke and salt marsh near high tide level, large population along dyke and raised portions of marsh, 2 Oct 1996, *Darbyshire et al. 4695* (DAO, UTC); St. Croix River at Highway 14, 44°59′17″N, 64°02′30″W, large population along riverbank above high tide with *Spartina pectinata, Festuca rubra, Daucus carota,* 3 Oct 1996, *Darbyshire 4696* (DAO, UTC); QUEBEC: Gatineau Co., Masham Tp., Hwy 105 north of Rivière Lapêche, west of Wakefield, 45°38′N, 75°56′30″W, planted after construction along highway shoulder and ditch, large colony established about 4 years ago, 25 Aug 1996, *Darbyshire 4681* (DAO, UTC).

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